

Attachment E

**Haverhill Coke Company, HNCC No. 1 and HNCC No. 2 and Gateway Energy and
Coke Company Bypass Vent Stack CEMs**

CEMs Data

GECC HRSG #5 Bypass Vent Stack CEMs Data

Reporting Period: 2nd Half 2017

Average SO₂ Wet PPM for 2nd Half 2017:

364.29

(average of valid data)

Calculation of SO₂ Emission Factor for Semi-Annual Period:

Using same equation that is used to calculate SO₂ emissions from the main stack CEMs:

$$\text{SO}_2 \text{ (lbs/hour)} = (1.66 \times 10^{-7}) \times (\text{Standard Cubic Feet per Hour}) \times \text{Conc (ppm)}$$

Flue Gas Flow Rate:

48,195

scfm, August 2013 GECC Flue Gas Flow Rate Study

SO₂ lbs/hr =

174.9

2nd Half 2017 SO₂ Emission Factor for Bypass Venting

Date and Clock Hour	Hour	Minutes Online During 1-Hour Block	SO ₂ Wet PPM (hourly average)	Reason For Venting
7/5/2017	5:00	15	451.4	ID Fan shutdown
7/5/2017	6:00	9	7.7	ID Fan shutdown
7/7/2017	2:00	39	513.4	ID Fan shutdown
7/7/2017	3:00	60	365.8	ID Fan shutdown
7/7/2017	4:00	44	281.1	ID Fan shutdown
7/7/2017	5:00	49	270.5	ID Fan shutdown
7/7/2017	7:00	20	532.9	ID Fan shutdown
7/7/2017	8:00	60	630.6	ID Fan shutdown
7/7/2017	9:00	60	333.5	ID Fan shutdown
7/7/2017	10:00	39	256	ID Fan shutdown
11/14/2017	3:00	59	111.1	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	4:00	60	107.6	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	5:00	60	91.7	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	6:00	60	79.1	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	7:00	60	68.2	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	8:00	60	41.5	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	9:00	60	43.8	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	10:00	60	68.4	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	11:00	60	56.2	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	12:00	60	53.2	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	13:00	60	49	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	14:00	60	47.7	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	15:00	60	46.3	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	16:00	60	44.4	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	17:00	60	38.8	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	18:00	60	37.9	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	19:00	60	36.8	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	20:00	60	35.4	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	21:00	60	51.8	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	22:00	60	45.4	Invalid - Failed calibration check due to critical orifice failure
11/14/2017	23:00	60	42.9	Invalid - Failed calibration check due to critical orifice failure
11/15/2017	0:00	60	41	Invalid - Failed calibration check due to critical orifice failure
11/15/2017	1:00	60	39.3	Invalid - Failed calibration check due to critical orifice failure
11/15/2017	2:00	60	37.1	Invalid - Failed calibration check due to critical orifice failure
11/15/2017	3:00	60	35.7	Invalid - Failed calibration check due to critical orifice failure
11/15/2017	4:00	60	52.7	Invalid - Failed calibration check due to critical orifice failure
11/15/2017	5:00	60	58.4	Invalid - Failed calibration check due to critical orifice failure
11/15/2017	6:00	60	46.4	Invalid - Failed calibration check due to critical orifice failure
11/15/2017	7:00	60	43.1	Invalid - Failed calibration check due to critical orifice failure
11/15/2017	8:00	60	41.8	Invalid - Failed calibration check due to critical orifice failure
11/15/2017	9:00	60	40.3	Invalid - Failed calibration check due to critical orifice failure

[illegible]

HNCC No. 1 HRSG #5 Bypass Vent Stack CEMs Data

Reporting Period: 2nd Half 2017

Average SO ₂ Wet PPM for 2nd Half 2017:	273.73	(average of valid data)
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Calculation of SO₂ Emission Factor for Semi-Annual Period:Using same equation that is used to calculate SO₂ emissions from the main stack CEMs:

$$\text{SO}_2 \text{ (lbs/hour)} = (1.66 \times 10^{-7}) \times (\text{Standard Cubic Feet per Hour}) \times \text{Conc (ppm)}$$

Flue Gas Flow Rate: 57,249 scfm, May 2016 HNCC No. 1 Flue Gas Flow Rate Study

SO₂ lbs/hr = 156.1 2nd Half 2017 SO₂ Emission Factor for Bypass Venting

Date and Clock Hour	Hour	Minutes Online During 1-Hour Block	SO ₂ Wet PPM (hourly average)	Reason For Venting
07/27/17	12:00	2.0	0	Invalid - Partially Online
08/23/17	18:00	33.0	408.2	CD Testing
08/23/17	19:00	47.0	434.6	CD Testing
08/27/17	09:00	6.0	374.8	CD Testing
09/25/17	12:00	2.0	0.1	Invalid - Partially Online
10/23/17	12:00	6.0	190.6	CD Testing
10/26/17	10:00	6.0	231.7	Stack Lid Maintenance
11/27/17	12:00	3.0	1.6	Invalid - Maintenance
12/26/17	14:00	2.0	0	Invalid - Partially Online
12/30/17	00:00	7.0	168.8	CD Testing
12/30/17	01:00	19.0	107.4	CD Testing

HNCC No. 2 HRSG #6 Bypass Vent Stack CEMs Data

Reporting Period: 2nd Half 2017

Average SO₂ Wet PPM for 2nd Half 2017: 248.93

(average of valid data since certification complete)

Calculation of SO₂ Emission Factor for Semi-Annual Period:Using same equation that is used to calculate SO₂ emissions from the main stack CEMs:

$$\text{SO}_2 \text{ (lbs/hour)} = (1.66 \times 10^{-7}) \times (\text{Standard Cubic Feet per Hour}) \times \text{Conc (ppm)}$$

Flue Gas Flow Rate: 57,249 scfm, May 2016 HNCC No. 1 Flue Gas Flow Rate Study

SO₂ lbs/hr = 141.9 2nd Half 2017 SO₂ Emission Factor for Bypass Venting

Date and Clock Hour	Hour	Minutes Online During 1-Hour Block	SO ₂ Wet PPM (hourly average)	Reason For Venting
07/28/17	11:00	2	2.6	Invalid - Partially Online
08/18/17	03:00	49	292.2	Loss of Draft
09/25/17	12:00	2	3.1	Invalid - Partially Online
10/23/17	11:00	11	272.4	Loss of Draft
10/26/17	10:00	4	182.2	Stack Lid Maintenance
11/27/17	12:00	2	2.2	Invalid - Partially Online
12/26/17	14:00	2	3.3	Invalid - Partially Online